CALIFORNIA
ENERGY
COMMISSION

INITIAL STUDY, ENVIRONMENTAL CHECKLIST AND PROPOSED NEGATIVE DECLARATION

AB 970 Energy Efficiency Standards for Appliances Part 1

January 19, 2001

STAFF REPORT

January 2001
P400-01-008

Gray Davis, *Governor*

CALIFORNIA ENERGY COMMISSION

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INITIAL STUDY, ENVIRONMENTAL CHECKLIST AND PROPOSED NEGATIVE DECLARATION

AB 970 ENERGY EFFICIENCY STANDARDS
FOR APPLIANCES – Part 1

Energy Commission Publication No. P 400-01-008

This report fulfills the requirements of the California Environmental Quality Act (CEQA) which requires public agencies to identify and consider the environmental effects of their "projects," as that term is defined, and when feasible to mitigate any related adverse environmental consequences. The Energy Commission's adoption of regulations is a project as defined under CEQA.

This report is intended for use as a discussion topic at a hearing to be held at the Energy Commission on February, 7, 2001. The hearing purpose is to obtain public comment on possible revisions to the appliance efficiency standards (California Code of Regulations, Title 20, Division 2, Chapter 4, Article 4, sections 1604(c)(4) and 1604(f)(4).)

January 19, 2001

INITIAL STUDY
and
ENVIRONMENTAL CHECKLIST

AB 970 ENERGY EFFICIENCY STANDARDS FOR APPLIANCES – Part 1

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AB 970 ENERGY EFFICIENCY STANDARDS FOR APPLIANCES – Part 1

I. BACKGROUND

A. History of the Standards

Following the oil crises in the 1970s, the Energy Commission first adopted energy efficiency standards for appliances in the late 1970s and has revised them periodically since then. These standards establish a *minimum* level of appliance efficiency; more efficient appliances can be used, resulting in additional energy savings. The Commission's current regulations include provisions for testing of appliances to determine their efficiency, reporting of efficiency data to the Commission, substantive standards establishing mandatory efficiency levels, and compliance and enforcement procedures.

The appliance standards changes under consideration and described in this document are for the following items: residential water heaters, both gas-fired and electric, and commercial and residential central air conditioning systems with under 135,000 Btu per hour output. Amendments to the standards for other appliances will be covered in separate proceedings.

Since 1975, the appliance standards, along with standards for energy efficient buildings, have helped Californians save more than $15.8 billion in electricity and natural gas costs. Energy Commission analysts estimate that that number will climb an additional $43 billion by 2011.[1] These savings and energy use reductions result in environmental benefits not only in California, but also in other parts of the Western United States from which California imports energy.

B. Reasons for This Project

During the year 2000, California experienced an electricity supply alert on 32 hot days between May 21 and September 21. During the hottest times of the day, approximately noon to 8 p.m., air conditioners all over the state put a strain on the electricity supply system. With surrounding states suffering in the heat as well, and few new power plants built in recent years, compounded by several years of significant population and economic growth in the West, the major electric utilities in California reported that reserve margins of electricity grew dangerously small. Stage One or Two alerts[2] were called on these "Power Watch" days, citizens and companies were asked to conserve, and the utilities implemented a variety of emergency measures to help alleviate the strain.

On these days, the utilities experienced high acquisition prices for electricity on the wholesale market. In the San Diego region, electricity bills doubled and in some cases tripled because rates were no longer subject to the rate freeze implemented in electric utility restructuring.

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[1] Cited on the California Energy Commission's website, http://www.energy.ca.gov/title24/index.html.

[2] A Stage One Alert or Emergency takes effect when electricity operating reserves fall below seven percent. A Stage Two is declared when reserves fall below five percent; large commercial customers who volunteer to curtail power at times of high demand are asked to do so. A Stage Three is declared when reserves are less than one and a half percent; utilities sometimes initiate rolling blackouts to preserve grid integrity.

On September 6, 2000, Governor Gray Davis signed emergency legislation, Assembly Bill 970, the California Energy Security and Reliability Act of 2000. The purpose of this legislation was to provide a balanced response to the state's electricity problems, to create significant investments in new, environmentally superior electricity generation, and to increase new investments in conservation and demand-side management programs to meet future energy needs.

One of the AB 970 mandates was to adopt and implement amendments to the California appliance efficiency standards, codified as Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1608 of the California Code of Regulations. The directive for these standards was to incorporate cost-effective appliance efficiency measures that would reduce electricity demand in hot weather (generally, over 100° F) and provide for more efficient use of electricity.[3] AB 970 mandated that the Commission adopt and implement the new standards in 120 days or on the earliest feasible date thereafter.

The California Environmental Quality Act (Public Resources Code, Sections 21000 et seq.), referred to as "CEQA," requires public agencies to identify and consider the environmental effects of their "projects," as that term is defined, and when feasible to mitigate any related adverse environmental consequences. The Energy Commission's adoption of regulations is a project as defined under CEQA. The Commission has therefore included in this Initial Study the results of analyses to determine any significant effects of the proposed appliance standards amendments on the environment.

II. PROPOSED PROJECT

With input from outside stakeholders, Energy Commission staff identified a number of measures for consideration as changes to the Title 20 appliance standards. The proposed changes under this proceeding amend the levels of efficiency for several appliances (listed below) and clarify the provisions of the Commission's efficiency standards for buildings that include appliance regulations.

The changes under this proceeding apply to the following appliances:

- residential central air conditioners and related three-phase commercial models,
- commercial air-cooled air conditioners and water-cooled computer room air conditioners, and
- residential water heaters, both gas and electric.

The new efficiency standards and reporting requirements for each appliance type and the rationale for each amendment are discussed in the Commission's Initial Statement of Reasons (ISOR) for this rulemaking.

Despite the short time frame for implementing changes to the appliance standards under AB 970, the state legislature did not exempt the Commission from performing cost-effectiveness analyses on the proposed changes. These analyses are summarized in *2001 Update, Assembly Bill 970 Draft Appliance Efficiency Standards, Life Cycle Cost Analysis*, dated December 2000, Docket No. 00-AB970-ApplStds filed with the Energy Commission. The full analyses are also docketed as public record at the Commission.

[3] In the fall and winter months following the enactment of AB 970, California and other Western states continued to experience problems with electricity supply. Energy efficiency improvements under AB 970 are now viewed as offering significant benefits year-round.

III. NO PROJECT

High demands for electricity on very hot days in California tax the capacity of the electrical grid, and electric utilities sometimes implement rolling blackouts to relieve the strain. Unplanned power outages can occur at these times as well. Reliability of the electricity grid is critical for many businesses in California. KLA-Tencor, for example, a semiconductor equipment manufacturer, determined that a single power outage cost the company $8 million in lost production, labor, and equipment.[4] Also, wholesale electricity prices skyrocket during these periods resulting in costs to utilities that must be passed on to customers if the utility is to stay solvent. In the summer of 2000, soaring wholesale electricity prices caused San Diego Gas and Electric to increase its customers' rates by a factor of two to three; Pacific Gas and Electric and Southern California Edison to request the CPUC to allow them to obtain reimbursement from customers even though rates are frozen for these utilities; and Sacramento Municipal Utility District to consider an increase in rates for the first time in several years.

If the Energy Commission did not strengthen the energy efficiency standards for appliances through this expedited rulemaking process, California would miss an opportunity to increase the reliability of the electric grid by cutting its summer peak demand by over 435 megawatts (MW) and its yearly electricity consumption by 163 gigawatt-hours (GWh) and reduce natural gas consumption by 360,000 million Btus (MBtu) per year.[5] Also, California would miss an opportunity to reduce annual release of criteria air pollutants as follows: oxides of nitrogen (NO_x) by 31.29 tons, PM10 (particulate matter ten microns or smaller) by 4.9 tons, and carbon dioxide (CO_2) by 98,037 tons, from power plants in the Western United States; and NO_x by 33,840 pounds, PM10 by 3,600 pounds, and CO by 10,800 pounds, at individual natural gas-fired water heating systems in California taken together.

Most traditional types of emergency electricity generators burn fossil fuel, usually diesel or gasoline, and are not easily regulated for release of air pollutants. Reducing the need for emergency generators through the efficient use of energy helps "spare the air" in California and surrounding states.

IV. ENERGY AND ENVIRONMENTAL IMPACTS OF PROPOSED CHANGES

A. Energy Impacts

The proposed efficiency changes were selected to respond to the mandate in AB 970 to "ensure the maximum feasible reductions in wasteful, uneconomic, inefficient, or unnecessary consumption of electricity."

Peak demand savings from the proposed changes for central air conditioners and residential electric water heaters are estimated at 435 MW, and the total savings in electricity use are estimated at 163 GWh per year.[5] The savings in natural gas use from residential water heaters are estimated at 360,000 MBtu per year.

[4] This figure is from The Power Quality Group, an alliance between E-Source and Electrotek. See Appendix B for the complete citation.

[5] These figures were calculated by Commission staff based on information from the appliance industry. See the reference listings in Appendix B for ACEEE and ASAP.

B. Environmental Impacts

Commission staff completed an environmental checklist to address CEQA issues on this project (see Section VI of this Initial Study). The results of this analysis show that implementing the new appliance efficiency standards will have no net negative impacts on outdoor or indoor environmental quality.

The new standards result in total environmental benefits due to electricity and natural gas savings in residential and nonresidential appliances. Electricity emissions reductions occur at power plants in California and other Western States, while natural gas emissions reductions occur at individual residences in California.

V. Conclusions and Recommendations

Since the analysis for the proposed changes to energy efficiency standards for appliances has shown that there will be no significant impact on the environment, staff recommends approval of the changes to help alleviate California's electricity crisis in the coming years.

VI. Environmental Checklist

Project title	AB 970 Appliance Standards
Lead agency name and address	California Energy Commission 1516 Ninth Street Sacramento, California 95814
Contact person and phone number	▪ Valerie Hall, Manager, Residential Buildings and Appliances Office, Energy Efficiency Division, (916) 654-5109 ▪ Michael Martin, Project Engineer, Appliance Efficiency Standards, Energy Efficiency Division, (916) 654-4039
Project Description	The Commission is proposing changes to the appliance efficiency standards as mandated by AB 970.
Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement)	None

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	I. Aesthetics		II. Agriculture Resources	x	III. Air Quality
	IV. Biological Resources		V. Cultural Resources		VI. Geology /Soils
x	VII. Energy		VIII. Hazards & Hazardous Materials		IX. Hydrology / Water Quality
	X. Land Use/ Planning		XI. Mineral Resources		XII. Natural Resources
	XIII. Noise		XIV. Population/ Housing		XV. Public Services
	XVI. Recreation		XVII. Transportation/ Traffic		XVIII. Utilities/Service Systems
x	XIX. Mandatory Findings of Significance				

Issues:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. **AESTHETICS --** Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
II. **AGRICULTURE RESOURCES** -- In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
III. **AIR QUALITY --** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?				X
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?				X
Improvements in the energy efficiency of appliances will have no impact to the concerns listed above. The appliance standards changes taken cumulatively will result in reduced power plant operation (in California and the Western United States) compared to existing appliance standards. Reduced power plant operation in turn results in fewer emissions of criteria pollutants.				
IV. **BIOLOGICAL RESOURCES** -- Would the project**:**				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with estab-				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
lished native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
V. **CULTURAL RESOURCES** -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
VI. **GEOLOGY AND SOILS** -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				X
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?				X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
VII. **ENERGY --** Would the project:				
a) Use exceptional amounts of fuel or energy?				X
b) Increase demand upon existing sources of energy, or require the development of new sources of energy?				X
Improvements in the energy efficiency of appliances will result in reduced energy use.				
VIII. **HAZARDS AND HAZARDOUS MATERIALS** -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
IX. **HYDROLOGY AND WATER QUALITY** -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?				X
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?				X
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				X
f) Otherwise substantially degrade water quality?				X
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
X. **LAND USE AND PLANNING** -- Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. **MINERAL RESOURCES** -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
XII. **NATURAL RESOURCES** -- Would the project result in:				
a) Significant increase in the rate of use of any natural resources?				X
b) Significant depletion of any non-renewable natural resource?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
XIII. **NOISE** -- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
XIV. **POPULATION AND HOUSING** -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
XV. **PUBLIC SERVICES** -- Would the project:				
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				X
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
XVI. **RECREATION** -- Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
substantial physical deterioration of the facility would occur or be accelerated?				
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
XVII. **TRANSPORTATION AND TRAFFIC** -- Would the project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?				X
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
XVIII. **UTILITIES AND SERVICE SYSTEMS** -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers' existing commitments?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X
Improvements in the energy efficiency of appliances will have no impact to any of the concerns listed above.				
XIX. **MANDATORY FINDINGS OF SIGNIFICANCE**				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				X
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Improvements in the energy efficiency of residential and nonresidential buildings will have no impact to the concerns listed above. The appliance standards changes taken cumulatively result in reduced power plant operation and reduce the need to build power plants in the future in California and the Western States.				

DETERMINATION:
On the basis of this evaluation:

X	I find that the proposed project WILL NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

STEVE LARSON Date
Executive Director
California Energy Commission

Appendix A

	Proposed Measure	**Existing Standard**	**Proposed Standard – Description of Change**	**Expected Annual Energy Effect[6]**	**Potential Environmental Issues**
1	Residential Central Air Conditioners Under 65,000 Btu output	SEER 10	SEER 13 and EER 11.3 Modifications required to meet the new standard include the installation of thermostatic expansion valves and might include expansion of both condensing and evaporator coils, elimination of multi-speed compressors, use of high efficiency compressors, or use of high efficiency fans.	Based on an estimated installation of 205,000 new units each year with unit energy savings of 278 kWh/yr. The statewide energy savings are projected to be 84 GWh/yr. Peak demand may be reduced by 150 MW.	EMISSIONS: Emissions reductions are expected across the Western states due to reduced electricity demand. MATERIALS: An increase in the condensing or evaporator coil size will increase demand for aluminum, though the increase will be very small in comparison to what is currently used. Improvement in efficiency may also be met with the use of improved compressors or addition of thermostatic expansion valves. Both of these actions would add small amounts of aluminum, copper, and/or steel to the system. High efficiency compressors may not require increases in material demand. Many existing units already meet the proposed efficiency requirements. Expected environmental impacts are negligible.

[6] All energy savings calculated based on first year sales only

Note: The numbers in this table are estimates by Energy Commission staff based on industry information. The documents from industry are listed by code in the last row of this table and included with full titles in Appendix B, References.

	Proposed Measure	**Existing Standard**	**Proposed Standard – Description of Change**	**Expected Annual Energy Effect[6]**	**Potential Environmental Issues**
2	Commercial Air Conditioners Output between 65,000 and 135,000 Btu Output between 135,000 and 240,000 Btu	EER 8.9 EER of 8.5	EER 11 EER 10.8 Modifications required to meet the new standard include the installation of thermostatic expansion valves and might include expansion of both condensing and evaporator coils, elimination of multi speed compressors, use of high efficiency compressors, or use of high efficiency fans.	Based on an estimated installation of 26,000 new units each year with unit energy savings of 3,484 kWh/yr. The statewide energy savings are projected to be 76 GWh/yr. Peak demand may be reduced by 257 MW.	EMISSIONS: Emissions reductions are expected across the Western states due to reduced electricity demand. MATERIALS: Increase in coil size will increase demand for aluminum, though the increase will be very small relative to what is currently used. Improvements in efficiency may also be met with the use of improved compressors and thermostatic expansion valves. Many existing units already meet the proposed efficiency requirements. Expected environmental impacts are negligible.

Note: The numbers in this table are estimates by Energy Commission staff based on industry information. The documents from industry are listed by code in the last row of this table and included with full titles in Appendix B, References.

	Proposed Measure	**Existing Standard**	**Proposed Standard – Description of Change**	**Expected Annual Energy Effect[6]**	**Potential Environmental Issues**
3	Residential Water Heater, Gas-Fired	For 50 gallon unit, base efficiency of 0.52 EF	For 50 gallon unit, base efficiency of 0.59 EF. Modifications include increased insulation, heat traps, or improved heat exchangers.	Annual energy savings of 3.6 million therms will occur based on the replacement or new construction installation of 120,000 units annually with unit energy savings of 30 therms per year.	EMISSIONS: The reduction in natural gas use will reduce NOx and related PM10 emissions. Materials: Incremental increases in insulation, improved flue design and the addition of heat traps for gas-fired water heaters will have minute impacts in materials use compared to the current demand.
4	Residential Water Heaters, Electric	For 50 gallon unit, base efficiency of 0.864 EF	For 50 gallon unit, base efficiency of 0.904 EF. Modification include increased insulation, adding insulation to the bottom of tanks, or converting tanks to plastic	Annual energy savings of 3.0875 GWh/yr of electricity will be saved based on the installation of 25,000 units annually. Per unit energy savings are 123.5 kWh/yr. Peak demand may be reduced by 28 MW.	EMISSIONS: Emissions reductions are expected across the Western states due to reduced electricity demand. Materials: Incremental increases in insulation for electric-fired water heaters will have minute impacts in comparison to the current demand. Converting tanks to plastic will save on the impacts associated with obtaining steel. The amount of additional plastic required to make tanks is insignificant compared with current total demand for plastics.

Note: The numbers in this table are estimates by Energy Commission staff based on industry information. The documents from industry are listed by code in the last row of this table and included with full titles in Appendix B, References.

	Proposed Measure	Existing Standard	Proposed Standard – Description of Change	Expected Annual Energy Effect[6]	Potential Environmental Issues
	CUMULATIVE EFFECT OF APPLIANCE STANDARD (Part 1)			The annual energy savings are estimated to be 163 GWh/yr. The estimated reduction in natural gas use is 360,000 MBtu per year. The total effect on peak demand reduction is estimated at 435 MW.	Emissions reductions in Western states are estimated to be NO_x 31.29 CO_2 98,037. PM10 4.9 (tons per year) Emissions reductions in California related to the improved operation of gas-fired water heaters are estimated at NO_x 33,840 PM10 3,600 CO 10,800 (lbs. per year) Material Impacts: All of the proposed appliance changes may add to the demand for materials. However, all increases are in terms of a few hundred pounds per year when the current demand is measured in tons.

Note: The numbers in this table are estimates by Energy Commission staff based on industry information. The documents from industry are listed by code in the last row of this table and included with full titles in Appendix B, References.

Appendix B – References

NOTE: Code letters before some entries below follow the same codes used in *2001 Update, Assembly Bill 970 Draft Appliance Efficiency Standards, Life Cycle Cost Analysis,* dated December 2000, Docket No. 00-AB970-ApplStds filed with the Energy Commission.

Assembly Bill 970, The California Energy Security and Reliability Act of 2000, approved by the Governor on September 6, 2000, and filed with the Secretary of State September 7, 2000.

California Energy Commission Initial Statement of Reasons, Emergency Regulations for Proposed Amendments to California Code of Regulations, Title 20: Chapter 2, Subchapter 4, Article 4: Appliance Efficiency Regulations and California Code of Regulations, Title 24: Part 6, Subchapter 2: Building Standards, **California Energy Commission**, Docket No. 98-A&B-1, November 2000.

California Statistical Abstract, **California Department of Finance**, Sacramento, California, October 2000. Available at http://www.dof.ca.gov/html/fs_data/STAT-ABS/sec_I.htm.

(RAC-1) Residential Central Air Conditioning, **A. DeLaski**, Appliance Standards Awareness Project (ASAP), November 8, 2000, via email to Michael Martin of the Energy Commission.

(RWH-1) Residential Water Heaters, **A. DeLaski**, Appliance Standards Awareness Project (ASAP), November 9, 2000, via email to Michael Martin of the Energy Commission.

The Rising Profile of Power Quality – Market Highlights, **The Power Quality Group** (an E-Source/Electrotek Power Quality Alliance), http://pqgroup.com/highlights.html, date of publication not given.

2001 Update, Assembly Bill 970 Draft Appliance Efficiency Standards, Life Cycle Cost Analysis, **California Energy Commission**, Docket No. 00-AB970-ApplStds, December 2000.

Appendix C – Glossary of Terms

Appliance Standards

The California Appliance Energy Efficiency Standards as set forth in the *California Code of Regulations*, Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1608, and referenced in the *California Code of Regulations*, Title 24, Part 6, Subchapter 2.

ASHRAE

American Society of Heating, Refrigerating and Air Conditioning Engineers.

BEES

See Building Energy Efficiency Standards

Btu/hr (Btuh)

British thermal unit per hour. One Btu equals the amount of heat needed to raise the temperature of one pound of water one degree Fahrenheit. Used for measuring heating and cooling equipment output.

CO

Carbon monoxide, an odorless, colorless, toxic gas by-product of some types of combustion.

CO_2

Carbon dioxide, a gas by-product of combustion that is known to behave as a greenhouse gas in the earth's atmosphere.

Gigawatt-hour (GWh)

One thousand megawatt-hours, one million kilowatt-hours, or one billion watt-hours of electrical energy.

Heating, Ventilating and Air Conditioning (HVAC)

The mechanical heating, ventilating and air conditioning system of the building is also known as the HVAC system. The standards use various measures of equipment efficiency defined according to the type of equipment installed.

Kilowatt (kW)

One thousand watts of power. A kilowatt is a measure of demand, or how many thousand watts are being drawn at any instant.

Kilowatt-hour (kWh)

One thousand watt-hours of energy.

Megawatt (MW)

One million watts of power. A megawatt is a measure of demand or how many million watts are being draw at any instant (*see also* kilowatt).

MBtu

One million Btus of energy.

NO_x

Oxides of nitrogen, usually NO and NO_2, that are chief components of air pollution and produced by the combustion of fossil fuels.

PM10

Solid particulate matter that is 10 microns in size or smaller. Usually considered pollutants, particulates are released from combustion processes in exhaust gases at fossil fuel plants and from mobile and other fugitive particle sources.

SEER (Seasonal Energy Efficiency Ratio)

The total cooling output of a central air conditioning system in Btus during its normal usage period for cooling divided by the total electrical input in watt-hours during the same period, as determined using specific test procedures.

Standards

The *California Building Energy Efficiency Standards* as set forth in the *California Code of Regulations*, Title 24, Part 6.

Therm

100,000 Btus.

Watt (W)

A unit of measure of electric power at a point in time, as capacity or demand.

Watt-hour (Wh)

One watt of power expended for one hour.

PROPOSED NEGATIVE DECLARATION

AB 970 ENERGY EFFICIENCY STANDARDS FOR APPLIANCES – Part 1

On September 6, 2000, Governor Gray Davis signed emergency legislation, Assembly Bill 970, the California Energy Security and Reliability Act of 2000. The purpose of this legislation was to provide a balanced response to the state's electricity problems, to create significant investments in new, environmentally superior electricity generation, and to increase new investments in conservation and demand-side management programs to meet future energy needs of the State of California. Among other items, the bill provides the following direction to the Energy Commission:

> "Public Resources Code 25553. Notwithstanding any other provision of law, on or before 120 days after the effective date of this section or on the earliest feasible date thereafter, the commission shall take…the following actions:
> …
> (b) Adopt and implement updated and cost-effective standards pursuant to Section 25402 to ensure the maximum feasible reductions in wasteful, uneconomic, inefficient or unnecessary consumption of electricity."

In the late 1970s, the Energy Commission developed energy efficiency standards for appliances, codified as Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1608, of the California Code of Regulations, and has been periodically revising them since then. AB 970 calls for strengthening these appliance standards; this document represents the first of two proposed sets of changes to the standards. Existing law [Public Resources Code Sections 25402(a)-(b)] also requires the Commission to adopt standards for energy efficiency in buildings; the current building standards state that buildings must comply with specified provisions of the appliance regulations. The proposed changes described in this document are for both the appliance standards and the appropriate sections of the building standards.

PROPOSED FINDING

The analysis for the proposed changes to energy efficiency standards indicates no significant impact on the environment. The Commission finds that the adoption of the proposed standards, including amendments and repeals of existing standards, will result in no significant adverse environmental effect. The attached Initial Study and Environmental Checklist documents this finding.

_____ DATE:_____
WILLIAM J. KEESE
Chair
California Energy Commission

_____ DATE:_____
MICHAEL C. MOORE
Commissioner
California Energy Commission

_____ DATE:_____
ROBERT A. LAURIE
Commissioner
California Energy Commission

_____ DATE:_____
ROBERT PERNELL
Commissioner
California Energy Commission

_____ DATE:_____
ARTHUR H. ROSENFELD
Commissioner.
California